Scientific American.

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☞ See Advertisement on last page.

POETRY.

THE WIDOW'S COMPLAINT.

Dear Doctor,—I am very sick,
And if you cannot help me quick
My case could hardly be forlorner,
I greatly fear that I'm a goner ;
My pain it is not physical,
And therefore I no physic shall
Require. Not on the skin to need
Cantharides or mustard seed—
O, no ! disease there not a germ is,
On cuticle or epidermis ;
But I can show a face I ween,
As fair as maiden of nineteen.
'Tis true, I am a little older ;
But still each wonder-struck beholder,
As, sylph-like, I escape from view,
Scarce rate me over twenty two.
No ! my disease is deeper seated
Than skin and bones, and must be treated
With gentler remedies than Senna,
Rhubarb and Jalap, and the many
Kill-devils, which the doctors deal in
To expedite the art of healing.
Tis an " affection of the heart !"
And now, dear doctor, do not start,
For, unless I can get relief,
My sojourn must be very brief.
Whene'er I see you riding by,
My heart is ever on the fly—
I try to still it every way, but
'Tis all in vain, 'twill not stay put,
But every time I feel it jump,
I think 'twill in the earth me dump.
My friends, some one thing, some another
Prescribe ; but still, with dreadful pother,
It bounds and bothers and assails me,
And people wonder what 'tis ails me.
A remedy you sometimes give,
Called *man*-na, that would make me live.
Oh, how delightful, by that side
Among the farms, at eve, to ride,
Midst cackling hens and peacock's tails—
O, that would cure me of my ails !

WIDOW WHO ?

KISSING, NO ROBBERY.

" Oh quit—get out—now don't you—
I really wish you wouldn't !
Oh, quit—will you ? Oh, get out—
You know you ought to shouldn't.

" There, now you've got it—oh, be still—
You shan't have any more ;
You've got—oh, take your face away—
What no man's got before.

" One more—there—that will do, oh, don't,
You've rumpled up my hair :
If you'll but quit, I'll GIVE you ONE—
Now take it—there—*there*—THERE ! !"

Anecdote of a Story Teller.

Horace Walpole tells the following anecdote of Dodington, who was in the habit of falling asleep after dinner. One day, dining with Sir Richard Temple, Lord Cobham, &c., he was reproached for his drowsiness. He denied having been asleep, and to prove his assertion, offered to repeat all that Cobham had been saying. He was challenged to do so. In reply, he repeated a story ; and Cobham acknowledged that he had been telling it. "Well," said Dodington, "and yet I did not hear a word of it. But I went to sleep, because I knew that about this time of day you would tell that story."

AYER'S IMPROVED BOILER.

FIGURE 1.

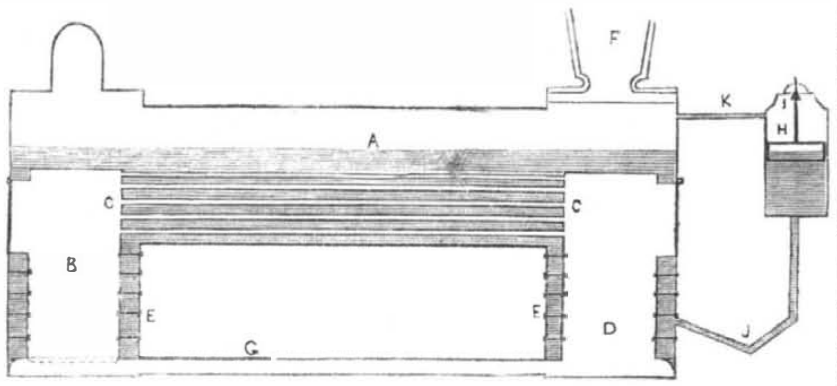


FIGURE 2.

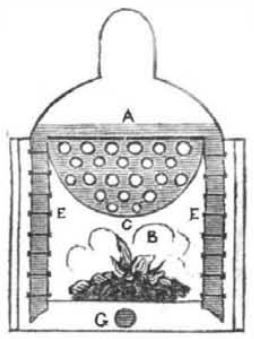
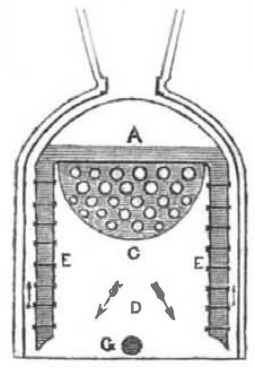


FIGURE 3



A partial description of this improvement has been heretofore given, in a communication from the inventor, Mr. Elisha Ayer, of Norwich, Ct. It has much novelty in its construction, and its peculiarities are based on correct principles ; and if the expense of construction does not prove objectionable, it must succeed well. It is, however, difficult to describe, even with the aid of engravings ; but those who are familiar with the subject will find no difficulty in understanding it.

Fig. 1, is a longitudinal elevation ; fig. 2, is a transverse section showing the fire place, and fig. 3 is a transverse section showing the opposite ends of the tubes and the smoke pipe. The surface of the water in the boiler is shown at A. From C to C fig. 1, is a series of tubes through which the smoke and heated air pass ; the ends of the tubes are shown in figures 2 and 3. B is the fire place, D a smoke pit, and F the smoke pipe ; enclosed in an external casing, between which and the smoke pipe a current of air descends, being heated in its passage, and passes through the horizontal pipe G to support the combustion of the fuel. It will be seen that there is a double casing E E, each side of the fire place and smoke pit, and the two plates are supported by horizontal bolts : the spaces between these plates constitutes part of the boiler, and is filled with water ; and the smoke, after passing through the tubes, descends to the bottom of the smoke pit, and passing up outside the water wall escapes to the smoke pipe. By this arrangement, an extra large portion of surface of the water, is exposed to the action of heat. The chamber H communicates with the boiler by the water pipe J, and the steam pipe K, so that the water in the chamber is kept on a level with that in the boiler, without being subject to undulations by the foam of ebulition. In this chamber is a float, from which a valve rod extends up to a conical valve I. Above this valve is a small chamber from which the steam that escapes is supposed to be conducted to a small engine that works the pumps ; so that when the water in the boiler gets too low, the valve is opened by the descent of the float, and the pump is instantly put in motion to replenish. Thus the boiler is kept supplied with water, whether the main engine is in operation or at rest. There is much ingenuity displayed in the invention, and we think the patent will be valuable.

The Latest Trick.

A benevolent English lady, a short time since, was deeply affected by the appeal of a wretched looking woman, who stated that her husband was lying dead in their poor cellar — The lady was requested to visit the place, which she did, and saw the supposed corpse laid out. She gave the weeping widow a sovereign, and departed ; but suddenly returning, to look for a pocket handkerchief which she had left behind, she found "the dead alive," sitting up in bed, with the sovereign between his fingers !

Singular Incident.

During the attack on Vera Cruz, Lieut. Shubrick carefully aimed one of his guns at a particular gun in a Mexican bastion, and was watching to see the effect of his shot, when he was killed by a shot from that same gun at the moment it was dismounted by his shot. Probably the Mexican artillerist was killed also.

J. M. Breedlove, who was some time since sentenced to ten years imprisonment, has so far succeeded in *breeding love* in the heart of the President, as to obtain a pardon.

A Grateful Woman.

A person applied to a pious woman, requesting her husband to become bound for an amount which, if ever demanded, would sweep away all his property. On her replying, "my husband will attend sir, whenever you may appoint," a bystander asked her: "Do you know what you are engaging to do ; and that perhaps this may be the means of leaving you destitute ?" She replied—"Yes, I do : but that gentleman found us in the greatest distress, and by his kindness we are surrounded by comforts ; now should such an event take place, he will only leave us where he found us."

Save him the Trouble.

Santa Anna, in one of his dispatches, threatens to return and "*seek the enemy*" provided his government will furnish the means. Perhaps "the enemy" will be found of him unsought, thus saving him much labor and expense.

An exchange paper tells of a parson who prefaced his sermon with "My friends, let us say a few words before we begin. This is about equal to the chap who took a short nap before he went to sleep.

LIST OF PATENTS

Issued from the United States Patent Office, for the week ending of 10th April, 1847,

To Joshua L. Gatchet, of Chester, Penna., for improvement in the Hydraulic Ram. Patented April 10, 1847.

To Reed B. Brown, of Williston, Vermont, for improvement in cross-cut sawing machine. Patented April 10, 1847.

To John Lahaye, of Reading Penna., for improvement in Self-detaching brakes. Patented April 10, 1847.

To Eckert Myers, of New Holland, Penna., for improvement in detaching Horses from Carriages. Patented April 10, 1847.

To Ross Winans, of Baltimore Maryland, for improvement in using exhaust steam for increasing draft in smoke pipes. Patented April 10, 1847.

To Benjamin Chambers, Washington, D.C., for improvements in Padlock's (having assigned his right, title and interest in said improvement to Joanna Chambers.) Patented April 10, 1847.

To Thomas Peck, of Syracuse, New York, for improvement in feeding Saw Mills. Patented April 10, 1847.

To Daniel Ball, of Albany, New York, for improvement in Bedstead fastenings. Patented April 10, 1847.

To Richard F. Stevens, of Syracuse N. York for improvement in devices for cleaning doors Patented April 10, 1847.

To Mendall Wright, of Cincinnati, Ohio, for improvement in devices for opening and closing window blinds. Patented April 10, 1847.

To Jacob Kinsman, of Reading Penna., for improvement in feeding Saw Mills. Patented April 10, 1847.

DESIGNS.

To George P. Browers, of Roxbury, and Joseph Pratt of Boston, Mass., for Design for Stoves. Patented April 10, 1847.

RENEWAL.

(By Act of Congress approved February 22d, 1847.) To John & Charles Bruce, of Jersey City, N. Y., for improvement in Cracker Machine, for seven years from the 22d of February 1847.

Taking the Census.

How many males are there in this family ?

Do you mean children and all ?

Ah, then there ain't none—cause my children's all gals, 'cept John, and he aint my child. Do you count John ?

How many females are there in the family ?

Females ! Let me see, there aint none but Biddy, the hired gal.

I understood you to say that your children were all girls.

La ! yes ! wal, do you count them too ?

Certainly I do—I count all who make their home in your family—old and young—men, women and children.

Snakes alive ! Then you want to put down the old man, I s'pose—don't you ?

What old man ?

My old man, to be sure.

I thought you said that John, the servant, was the only male in the family.

So I did—but I did'nt s'pose ' males' meant descripit old men like my husband. He's been all but dead with palsy, six years next hoeing.

Now for the females

Well, here's Biddy, and Prudence, and Jemima, and Grace, and—that's all four of 'em.

But you have'nt included yourself.

Gracious ! D'ye put down the old women, too. 'Pears to me the State's mighty curus this year.

A wicked old bachelor once said, that no matter whom you married, you would find afterward that you had married a different person.

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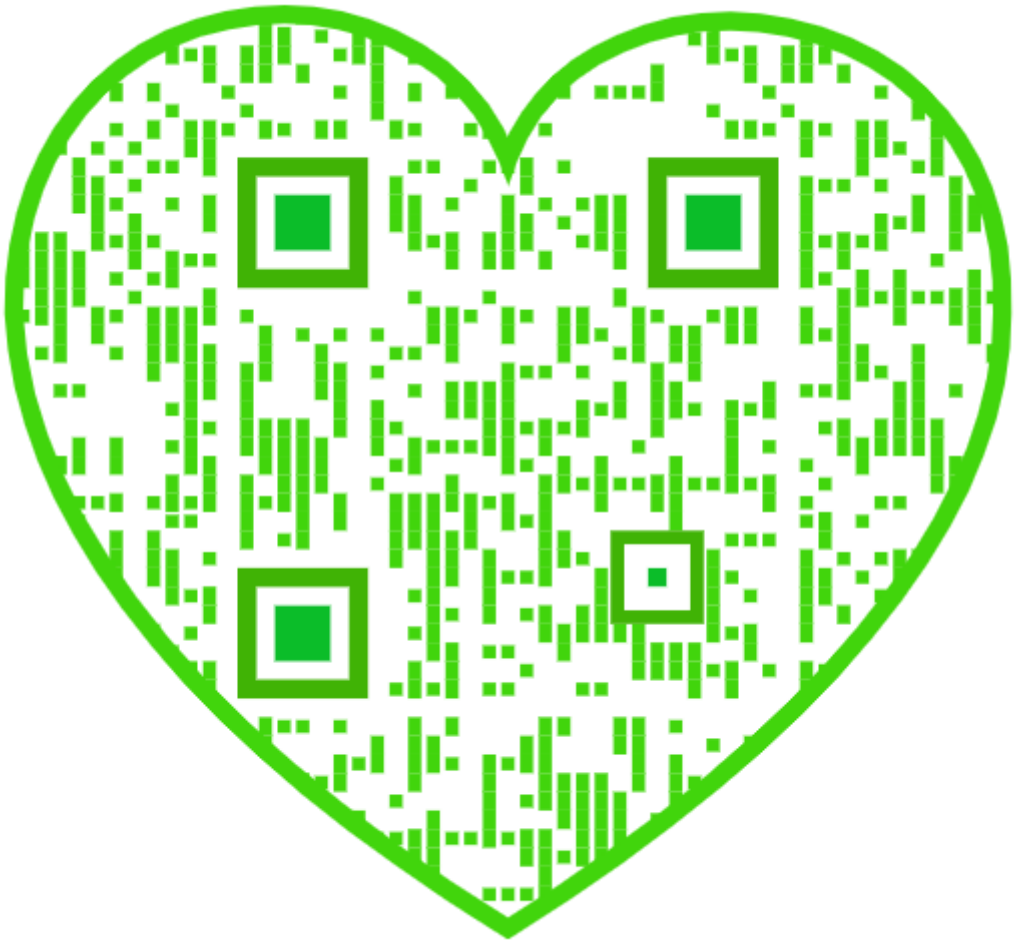

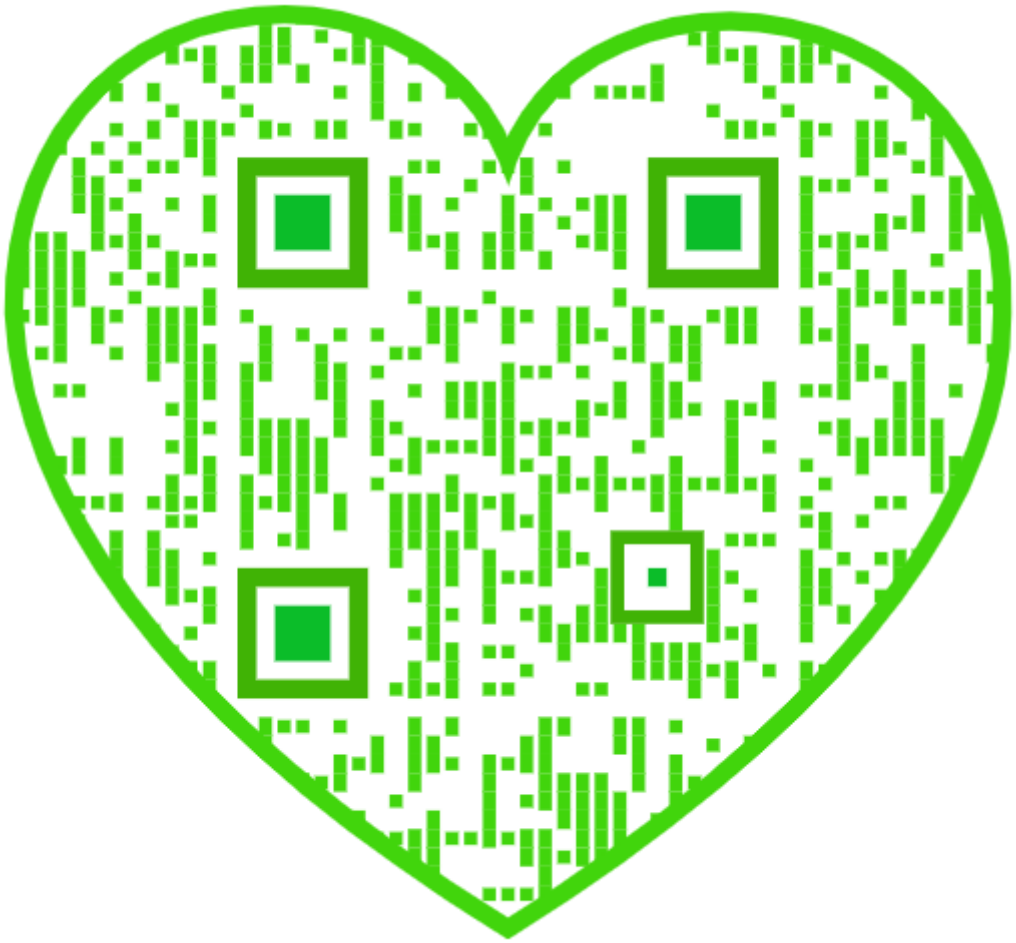

Wear a Smile.

Which will you do—smile and make others happy, or be crabbed and make every one around you miserable? The amount of happiness you can produce is incalculable if you show a smiling face—a kind heart—and speak pleasant words. Wear a pleasant countenance let joy beam in your eyes, and love grow on your forehead. There is no joy like that which springs from a kind act or a pleasant deed—and you may feel it at night when you rest, at morning when you rise, and through all the day, when about your business.

"A smile: who will refuse a smile,
The sorrowing breast to cheer?
And turn to love the heart of guile,
And check the falling tear?
A pleasant smile for every face,
O, 'tis a blessed thing!
It will the lines of care erase,
And spots of beauty bring."

More Cases of Adipocere.

At Sangerville, Me., a couple of weeks since, two cases of adipocere were discovered, by the removal of the bodies from one grave yard to another, closely assimilating to the case of Mrs. Friend in this city. One was the body of a child, which had become perfectly adipoce. The other was the wife of a citizen of Guilford, probably forty years of age, who died some ten or twelve years before. The body was as plump and as heavy, or heavier, than in health. It is not a time to be astonished at anything: but from these several cases, it may be reasonably inferred that there has within a few years a great change commenced in the course of nature, in this respect, and that a large number of those who have been recently buried, have been thus preserved from decomposition.

Affecting Incident.

A little girl thirteen years of age, at Pawtucket, R. I., attempted suicide last week by drowning. She had taken an orange from a basket in front of a store, and on being told that an officer was after her by some of her children, she run and jumped into the river just below the falls. She was rescued as she was about sinking for the last time.

Graceful Compliment.

Washington visiting a lady in his neighborhood, on leaving the house, a little girl was directed to open the door. He turned to the child and said, "I am sorry, my little dear, to give you so much trouble." "I wish, sir," she replied, "it was to let you in."

Mischievous Mice.

From circumstances since discovered, says the Salem Gazette, it appears that the recent fire in the house of D. A. Neal, Esq., was unquestionably occasioned by the action of mice upon friction matches. These dangerous conveniences require much care, to prevent their becoming "incendiaries."

Goodyear's Ware.

The War Department has sixteen factories employed in working Goodyear's patent India rubber into pontoon boats and other military articles. These boats or floats, though light and portable, are capable of carrying sixteen men each.

Cheap Fares.

Some of the North River steamboats are advertised to carry passengers to Albany for *one dollar*. If berths are included, no passenger should wish for a cheaper passage.

Rather Top-heavy.

It is stated that the camel is the only animal that cannot swim. The moment they lose their footing in a stream they turn over, and can make no effort to prevent themselves from being drowned.

Adopting Children.

A large number of country gentlemen have lately taken children from the Alms House, and adopted them into their own families. The average has been one child a day for several weeks past.

A Good Man.

Under this attracting head, an exchange notices the circumstances that Mr. Peter Miller recently *died* at Easton, Pa., in the 81st year of his age, *leaving* a large property, valued at $500,000! Yes, he left his accumulated property, at the age of 81, and is called a *good man*. But this is not all: he made provision in his *will*, that a large sum of money should be loaned in small sums, on *good security* (!!) to young farmers and mechanics. (What a good man.) Well, we will not dwell on the circumstance, but we cannot but regret that the good man had not appropriated some of his property in doing good while living, or at least allowed it to do some good to those who have no means of giving "good security," after his decease.

Gen. Scott's Movements.

It is said to have been Gen. Scott's original intention to land at Anto Lizardo, but his despatches to Gen. Taylor having fallen into the hands of Santa Anna, he very properly concluded to debark at once at Vera Cruz. The Mexicans, in the meantime, had fortified near Anto Lizardo and collected there a force of some 2,000 men. But by the judicious movement of Gen. Scott, they were cut off from the power of aiding those in the city.

Hurlgate.

It is not disputed that the name of the crooked, rocky narrows above Harlem, was originally Hellgate, and some writers are frequently quarrelling with those who call it otherwise. But a better taste prevailing with a majority, whose good sense teaches them that there is no binding necessity for continuing adherence to original names of places, the place is generally called Hurlgate. Those who are particularly partial to the former name are left at liberty to retain it nevertheless.

The Telegraph in England.

The description given by our foreign correspondent in a former number, of a newly invented telegraph exhibited at Liverpool, and since put in operation on one of the English lines, exactly corresponds with that of our citizen House's telegraph, and as that has been introduced in England, it is probably the same.

The Battle of Buena Vista.

We are in possession of a full and minute account of this extraordinary battle, and shall endeavor to reduce it to a condensed form for our next number. It will furnish a brilliant item in the history of nations, and more interesting than anything of the kind recorded since the days of the Spartans

The Hanging System.

Three men have been condemned and hung at different times for the murder of Col. Davenport of Illinois, but it is doubted whether they have got the right one yet. One or more of those who have suffered, have subsequently been proved to be innocent, and the real murderer is believed to be the one who has been suffered to escape from jail.

Romance Defeated.

A very romantic young lady, rescued from drowning, while in a state of insensibility, declared on reviving, that she must and would marry the noble preserver of her life. On enquiring the name of her generous deliver, to her great dismay she learned that it was a Newfoundland Dog.

Pigeon Express.

We understand, says the New Bedford Express that a pigeon express is in training between this place and Nantucket, by means of which it is thought that intelligence may be transmitted between the two places in about thirty minutes. The experiments thus far have been entirely successful.

When the magnetic telegraph is completed to Cincinnati, news will be received from N. Orleans, by way of Cincinnati, in from four to five days, or seventy odd hours earlier than now through the mails.

Mrs. Deborah Godfrey, an English lady, who died in 1802, was the mother of 34 children, all of whom lived to grow up.

Keo-Kuk, the celebrated Indian warrior, has arrived at St. Louis, accompanied by ten of his people.

The Razor Strop Man is following his avocation in Georgia, where he is quite a favorite, and still has "a few more left."

Nearly three thousand emigrants have arrived in this city from Europe, during the last week. Measures should be taken to forward them West, as fast as they arrive

The Military successes of Gen. Taylor, have induced almost a *rage* in his favor, and people seem determined to make him a President by force, whether he can write or not write.

The Baltimore "American Statesman," is to be (or has been) superseded by the "Baltimore Daily (and weekly) News," by the same publishers.

Dr. Snodgrass, the popular and distinguished editor of the Baltimore Saturday Visiter, has been engaged as assistant editor of the "National Era."

Major Borland, Major Gaines, Captain Cassius M. Clay, and their commands, numbering about eighty-two men, who have been prisoners in the castle of Perote, were to be delivered up at Vera Cruz.

The largest distillery in the West, that of Mr. Gibson, at New Richmond, Ohio, was destroyed by fire on the night of the 5th inst — The light was seen at Cincinnati, 20 miles off.

Miss Martineau has been visiting Egypt, and was there in the latter part of January, collecting materials, as was supposed, for a new book.

"Beware of bad Papers," is the heading of an article in one of our exchanges. Of course we threw down the paper without stopping to read the article.

The steamboat Commerce, the first boat that reached Albany last week, is said to have forced her way through ice four feet thick, in passing Schuyler's bar.

Boston, in 1800, had twenty-five thousand inhabitants; in 1846, one hundred and fifteen thousand. At the same time there were thirty distilleries, now only seven.

The Chippeway Indians are said to be dying by hundreds with the small pox. Six Indians were found dead one morning on the ice.

During the last three weeks, from 30,000 to 40,000 cart loads of dirt have been taken up from the streets in this city, yet there are a few more left of the same sort.

The Legislature of Michigan, at its last session, passed a bill which is said to make ample provision for the construction of a canal around the Sault St. Mary's.

It is reported that the telegraph wires on the Buffalo line have been injured by immense flights of pigeons. Rather doubtful.

A young man was arrested at Princeton, N. J., last week and fined ten dollars for smoking a cigar in church during worship.

Upwards of two hundred ships, brigs and schooners have sailed from the Atlantic cities, freighted with bread stuffs for Europe since the 1st of January.

It is reported that Government has recently purchased the patent right of a new rocket, which is capable of destroying lives and property at the distance of two miles.

From $5000 to $6000 have been raised for the relief of Ireland, among the soldiers of Gen. Scotts' army. They can be generous as well as brave.

An Eastern Boss, advertising a runaway apprentice describes him as being "thickly set, usually wearing a glazed hat five feet high, and iron shod shoes a little cross-eyed, &c.

The Albany "Mechanic's Advocate" challenges competition as to the *number* and *ability* of its contributors, &c. Scissors! Of the real Sheffield manufacture, probably.

Fear has produced on a wounded person an instantaneous change, and rendered the disease fatal. It sometimes produces stupor on the brain, and so affects the individual that he never recovers.

The Protestant Episcopal Church, of the Western Diocese of New York, has contributed the sum of 10,000 dollars in aid of the suffering peasantry in Ireland.

THE WAR IN MEXICO.

The news of the surrender of the city of Vera Cruz and the Castle, was received just in season to be too late for our last number, and as we suppose that every body has heard of it, we shall make but a short story on the subject at present. We mentioned last week, the investment of the city by the army under Gen. Scott. The bombardment commenced on the 20th, and was continued to the 25th, when the citizens having in vain importuned the obstinate Gov. Morales to surrender the town, the National Guard was convened, and Morales was deposed and Gen. Landero placed in command. The next morning a flag of truce was received from the Mexicans, with a proposition to treat for a surrender. A commissioner was appointed, and after twelve hours negotiation terms were agreed on, and both the city and castle, with 4000 troops were surrendered, and the flag of the Union was hoisted in the city and castle. The city is said to be one half destroyed; houses are blown to pieces, and furniture scattered in every direction—the streets torn up and the strongest buildings seriously damaged. Two shells struck the roof of the government house, and penetrated to the cellar, where four or five women of the governor's household had taken refuge, all of whom were instantly killed

The loss of the Mexicans is estimated at 1000, principally women and children; the soldiery being generally sheltered by the walls their loss was comparatively small. The loss on the American side is 12 killed and 40 wounded.

During the bombardment, our army had thrown the following number and size shot:

Army Battery.

3000 ten-inch shells, : : : : : 99lbs. each.
500 round shot, : : : : : : 25lbs. each.
200 eight-inch howziter shells, 68lbs. each.

Gen. Patterson's Navy Battery.

1000 Paixhan shot, : : : : : : 68lbs. each.
800 round shot, : : : : : : 32lbs. each.

Musquito Fleet, Capt. Tutnall.

1200 shot and shell, averaging, 62lbs. each.

Making in all 6,700 shot and shell, weighing 463,600 lbs.

The 4000 prisoners were sent to their homes on parole. Gen. Scott intended, two days after the capitulation, to move one division of his army into the interior, *en route* for the city of Mexico, and orders had been issued to that effect.

Address of the Governor of San Luis Potosi to the Mexican People.

Fellow Countrymen:—Our army under the orders of his Excellency, *Benemerito de la Patria* D. Antonio Lopez de Santa Anna with heroic valor—overcoming the inflictions of the most frightful suffering, struggling against the nature of the ground, and even with Nature herself, which appeared to dispute the victory with it—severely punished our common enemy on the 22d and 23d inst. It has covered itself with glory. Its illustrious commander has given new life to his country, and has re-conquered its independence, so perfidiously and vilely menaced. The pride of the North American has been humiliated, and our army has restored the national honor outraged at Resaca and Monterey. The Republic commences today an advance which will make it respected abroad and which will bear it on without doubt to that immortality destined for free and independent nations. Our immense territory, usurped by this vile and detestable horde, will be restored to us intact; not a single vile footprint shall dare to pollute our soil, and the hero, the genius, the man whom Heaven had bestowed upon us as a precious gift, amid the afflictions of the country, will very soon complete the sublime enterprise which he has commenced. Union, fellow countrymen! eternal gratitude to the illustrious, renowned and well-deserving President, Gen. D. Antonio Lopez de Santa Anna, and the invincible army which is fighting under his orders in defence of our dearest interests. RAMON ADAMO.

The number of buildings put up in this city within the past year is reported as 2010.

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BROTHERS, ON!

Sons of Temperance! Brotherhood,
Noble, generous, virtuous, good,
Nobly still, as ye have stood,
Stand against the foe!

Heart to heart, and hand to hand,
Brothers of the fountain! stand,
Like a strong victorious band,
Conquering as you go.

Let the warrior, madly brave,
Court the battle-field, where wave
O'er a murdered brother's grave,
Flags of victory.

Be his brightest glory won,
Carnage, death, a name, renown,
On his brow a laurel crown
Of a crimson dye.

Yours a purer wreath shall be;
Love shall twine Fidelity,
With the lilly's Purity,
In a chaplet fair.

Yours a nobler meed shall be,
Yours to set the captive free—
Point to *Love's Fraternity*,
Hope's bright beacon star.

Yours to guard the unwary feet,
Yours to unmask the gilded bait,
Yours to snatch the inebriate,
From a drunkard's grave.

Yours to strike from off the hands,
Fetter's like the maniac's bands—
Save from error's withering brands,
From perdition save!

O'er the grave of sorrow's night,
O'er the cypress' deadly blight,
Yours to plant the hawthorn bright,
And the holly tree.

Be each brother's heart a chime,
Sacred to the truthful vine—
Long the woodbine there shall twine,
The wreath of Purity.

Long each faithful breast shall bear,
Impress of its signet there,
Virtue's seal divinely fair—
Truth, Fidelity. H.

Palmyra, Feb., 18th, 1847.

The Begging Business.

The Boston Post gives the following as a literal copy of a "Beggar's petition," which has been lately circulated by a lad with "particularly red hair and light complexion:—

"This is to certify that the bearer, Antonio Patricko O'Flarhertyo, is a native of Italy, and belongs to one of those unfortunate families who were thrown from the crater of Mount Vesuvius in the eruption of 1807; and in descending the sides of the rugged mountain, with masses of stone, lava, &c., was cruelly separated from his fond parents, his tender sisters, and his loving brothers. Thus he was thrown upon the world at an early age an orphan, without friends; but, by the aid of philanthropic Italians, he was enabled to procure a license and a stock of penny papers, which he for months continued to sell at the various railroad stations in and about Naples: by untiring industry and strict economy, he was enabled to reach this country, through which he now wanders in hopes of meeting his long lost separated family, who, as the wind was blowing strong from the east at the time of the eruption, he doubts not exist somewhere among us.

I commend this young cinder to the tender mercies of the benevolent, knowing as I do that he is honest, and his story (which he cannot speak in English) is a true one.

Signed, DUNDRUM HOSKINS,
Captain of ship Titus A. Peep.
J. CÆSAR, jr., charge de affairs at Naples

Horrid Cruelty.

The editor of the Hudson River Chronicle says that he heard Eldridge, head keeper of Sing Sing, boast a short time since, that one convict he had ordered to be whipped until he fainted away. He had him brought to and then whipped him until he fainted away a second time. Still his vengeance was not complete. A second time was the poor wretch brought to, and a third time flogged until he fainted again.

The Pictured Rocks.

The following account of these precipitous cliffs, is extracted from Mr. Schoolcraft's recent work:—"The Pictured Rocks, called by the French voyagers *La Portaille*, are a series of lofty bluffs which extend for 12 miles along the southern shore, towards the eastern end of Lake Superior. They present some of the most sublime and commanding views in nature. We had been told by our Canadian guide, of the variety in the color and form of these rocks, but were wholly unprepared to encounter the surprising groups of overhanging precipices, towering walls, caverns, waterfalls, and prostrate ruins, which are here mingled in the most wonderful disorder, and burst upon the view in ever-varying and pleasing succession. In order to convey an idea of their magnificence, it is necessary to premise, that this part of the shore consists of a sandstone rock of a light gray color internally, rising in a perpendicular wall from the water, to the heigh t of three hundred feet, and extending four or five leagues in length. It presents a great variety of color, as black, red, yellow, brown and white, particularly along the most permanent parts of the shore, but where masses have newly fallen, its color is a light grey. This stupendous wall of rock, exposed to the fury of the waves, which are driven up by every north wind across the whole width of the lake, has been partially prostrated at several points, and worn out into numerous bays and irregular indentations. All these front upon the lake, in a line of aspiring promontories, which at a distance present the terrible array of dilapidated battlements and desolate towers. In some places the waves have washed down the lower strata, while the upper ones hang in a threatening posture over the lake; in others, extensive caverns have been worn into the rock, and in this way rocky bluffs nearly severed from the main, are left standing upon rude massy pillars, between which barges and canoes might with safety sail. It may be doubted whether, in the whole range of American scenery, there is to be found such an interesting assemblage of grand, picturesque and pleasing objects."

The Brave Boy.

I was sitting by a window in the second story of one of the large boarding houses at Saratoga Springs, thinking of absent friends, when I heard shouts of children from the piazza beneath me. "O yes; that's capital! so we will! Come on now! There's William Hale! Come on, William we're going to have a ride on the Circular Railway. Come with us!" "Yes, if my mother is willing. I will run and ask her,' replied William. "O, O! so you must run and ask your *ma*. Great baby, run along to your ma! An't you ashamed? I did'nt ask my mother!" "Nor I," "Nor I," added half a dozen voices. "Be a man, William,'' cried the first voice, "come along with us, if you don't want to be called a coward as long as you live.—Don't you see we are all waiting?" I leaned forward to catch a view of the children, and saw William standing with one foot advanced, and his hand firmly clenched, in the midst of the group. He was a fine subject for a painter at that moment. His flushed brow, flashing eye, compressed lip, and changing cheek, all told how that word *coward* was wrangling in his breast. "Will he prove himself indeed one, by yielding to them?" thought I. It was with breathless interest I listened for an answer, for I feared that the evil principle in his heart would be stronger than the good. But no. "I *will not* go without I ask my mother" said the noble boy, his voice trembling with emotion, "and I am no coward either. I promised her I would not go from the house without permission, and I should be a base coward if I were to tell her a wicked lie." There was something commanding in his tone, which made the noisy children mute. It was the power of a strong soul over the weaker; and they involuntarily yielded him the tribute of respect. I saw him in the evening among the gathered multitude in the parlor. He was walking by his mother's side, a stately matron, clad in widow's weeds. Her gentle and polished manners, and the rich full tones of her sweet voice, betrayed a southern birth. It was with evident pride she looked on her graceful boy, whose face was one of the finest I ever saw, fairly radiant with animation and intelligence. Well might she be proud of such a son, one who would dare to do right, when all were tempting to the wrong. I shall probably never see the brave, beautiful boy again, but my heart breathed a prayer that that spirit, now so strong in its integrity, might never be sullied by worldliness and sin, never, in coming years, be tempted by the multitude to evil. Then will he be indeed a joy to the widow's heart—a pride and an ornament to his native land. Our country needs such stout, brave hearts, that can stand fast when the whirlwinds of temptation gather thick and strong around them—she needs men who from infancy upward have scorned to be false and recreant to duty.—*Youth's Companion.*

History of Architecture.

The first habitations of men were such as nature afforded, with but little labor on the part of the occupant, and sufficient to satisfy his simple wants,—huts, grottos and tents.—But as soon as men rose above the state of rude nature, they formed societies, cultivated the soil, and began to build more durable and commodious habitations. They wrought the materials with more care, fitted the parts together more closely and neatly, prepared bricks of clay and earth, which they first dried in the air, and afterwards baked by the fire; they smoothed stones, and joined at first, without cement. After they had learned to build houses, they began to erect temples for their gods who first dwelt with them in caverns, huts and tents. These temples were larger and more splendid than the habitations of men.—Thus architecture became a fine art, which was first displayed on the temples; afterwards on the habitations of princes, and public buildings, and, at last, with the progress of wealth and refinement, became a universal want of society. The haughty palace appeared in the place of the wretched hut of reeds and clay; the rough trunk was transformed into a lofty column, and the natural vault of a cavern into the splendid Pantheon. Colonnades, halls, courts, and various ornaments now appeared. Stieglitz contends that the fundamental forms of the ancient Egyptian and Grecian architecture probably originated in structures of stone, and not from those of wood, as Hirt maintains in his History of the Architecture of the Ancients. The most ancient buildings of the Indians were modelled on the structure of caverns, To the most ancient nations known to us, among whom architecture had made some progress, belong the Babylonians, whose most celebrated buildings were the temple of Belus, the palace and the hanging gardens of Semiramis; the Assyrians, whose capital, Nineveh, was rich in splendid buildings; the Phœnicians, whose cities, Sidon, Tyre, Aradus and Sarepta, were adorned with equal magnificence: the Israelites, whose temple was considered as a wonder of architecture; the Syrians and the Philistines. No architectural monument of these nations has, however, been transmitted to us. But we find subterraneous temples of the Hindoos, hewn out of the solid rock, upon the Islands Elephanta and Salsetta. Of the Persian architecture, the ruins of Perseopolis still remain; of the Egyptians obelisks, pyramids, temples, palaces, sepulchres and portions of city walls.—The character of this elder architecture was immovable firmness, gigantic height, prodigal splendor, which excited admiration and astonishment, but comparatively little pleasure The Greeks were the first who passed from the rough and gigantic to a noble simplicity and dignity. The Doric order of columns characterizes this first period. The greatest masters, Phidias, Ictinus, Callicrates, and others, encouraged end supported by Pericles, emulated each other, as soon as peace at home and abroad was restored. The beautiful temple of Minerva was erected upon the Acropolis of Athens, also the Propylæum, the Odeum, and other splendid buildings. An equal taste for the arts arose in the Peloponnesus and in Asia Minor. A high degree of simplicity was united with majestic grandeur and elegance of form. The beauties of architecture were displayed not only in temples, but also in theatres, odeums, colonnades, market-places and gymnasia. The Ionic and Corinthian columns were added to the Doric.

(*To be Continued.*)

The Moon.

The following is the appearance of the moon, as seen in the great telescope of Lord Rosse, and described by the Rev. Dr. Scoresby, at Bradford: "It appeared like a globe of molton silver, and every object of the extent of a hundred yards was quite visible. Edifices, therefore of the size of York Minister, or even of the ruins of Whitby Abbey, might be easily perceived if they had existed. But there was no appearance of anything of that nature neither was there any indication of the existence of water or of an atmosphere. There was a vast number of extinct volcanoes, miles in breadth; through one of them there was a line in continuance of one, about one hundred and fifty miles in length, which ran in a straight direction like a railway. The general appearance, however, was like one vast ruin of nature; and many of the pieces of rock, driven out of the volcanoes, appeared to be laid out at various distances." The doctor says he expects it will soon be possible to daguerreotype the image of the moon upon the speculum—which cannot be done at present, as the moon is not stationary but the Earl contemplates a piece of mechanism to move the telescope to a certain distance, with the motion of the moon.

THE WEATHER, &c.

WEDNESDAY, APRIL 7th.

	HOURS, A. M.									HOURS, P. M.									
	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10
Therm.	—	—	43	43½	48½	51	54	53½	54½	57	58	59½	60	59	58	55½	54	53	52
Wires,	—	—	52	53½	57	59½	61	60	61	63	64½	65	66	65	64	62	60	59½	58

[*Equilibrium ended.*

THURSDAY, 8th.

Therm.	—	—	—	43	50	54	56	58	59	59	59½	59½	59	56½	55	53	52	51½	—
Wires,	—	—	—	52	58	62	62½	66	66	66	66	65½	64½	62½	60½	59	58	58	—

[*Equilibrium.*

FRIDAY 9th.

Therm.	—	—	—	53	55	54	53½	55	56	56	55½	55½	56	54	53	50	49½	47	46
Wires,	—	—	—	58	60	59½	58	60	61	61	60	60	60	59	38	55	54	52½	52

SATURDAY, 10th.

Therm.	—	—	—	42	50	54	57	59	62	63	64	63½	63	62	59	56	53½	49½	46½
Wires,	—	—	—	53	59½	64	68	67	70	71	71½	71	70	69	66½	64	61½	56½	54½

SUNDAY 11th.

Therm.	—	—	—	43	48½	43	44½	—	47½	49	50	49	49½	48	47	44½	—	41½	40½
Wires,	—	—	—	51	54½	53	53	—	55½	57	57	56	56	55	54	52	—	50	49½

MONDAY 12th.

Therm.	—	—	—	40½	45	48	51½	54½	57	61½	64½	67	67	66	64	64	60	58	55½
Wires,	—	—	—	52	55	58	60	62½	65	69½	72	74	74	73	71	70	68	56	62½

TUESDAY, 13th.

Therm.	—	—	—	44½	45	44	46½	48	49	50	52	53	52½	51½	50	48½	46	—	42
Wires,	—	—	—	52	52	51½	53½	55	55½	56	57	58	57	56	54½	54	52	—	49

REMARKS.

April 7. Dark clouds in motion from 9 A. M. to 1 P. M., preceded by a rapid rise of the wires. In the evening the Aurora Borealis was very brilliant, and was seen over a great surface. I have accounts from Washington City, Baltimore, Philadelphia and Albany, at each of which places the light was very bright. The wires it will be seen fell rapidly, and in all 10°; thermometer fell 13° during the same time. April 8. Rain commenced falling before midnight, and continued till 5 A. M. of the 9th with a slight variation from Equilibrium both in wires and thermometer. April 11th. Equilibrium commenced with the thermometer and continued till the morning of the 12th during which time the wires rose 2½ degrees. In the evening very vivid lightning in the north east, great depression in the wires during the night, being 19½ degrees from sunset to sunrise; during the same time the thermometer fell 19°, sprinkling of snow at 9 A.M.

E MERIAM.

Brooklyn, April 13th, 1847.

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NEW INVENTIONS.

Improved Mill.

Mr. Edward Harrison, a popular scientific Machinist of this city has recently perfected a mill of novel construction, for grinding corn and grain, and which appears likely to excel anything of the kind now in use, for a cheap and portable mill especially. A full sized mill may be enclosed in a box two feet in length by one foot square, including a fanning apparatus for cleaning the grain and cooling the mill.—The mill is conical, running on a horizontal axle, on which are also mounted two spiral fan-wheels, running in contrary directions, and the sharp blast of wind thereby produced, by passing over the surface of the external grinder, and being restricted by an outside casing, prevents the heating of the mill or meal. Mr. Harrison has made due application for letters patent, and will in a short time, be ready to supply orders for the mills.

New Bank Lock.

We find much pleasure in noticing such new mechanical inventions, as are not only in a line of general utility, but decidedly superior to any thing in the line. Such we esteem a new lock for banks and safes, recently invented by a lock and safe manufacturer, of much celebrity in this city. We shall defer giving a minute description of this lock, till we procure the aid of an engraving: but we will explain so far as to say that the lock requires no key; that its external casing has no orifice whereby a burglar could use gunpowder or other explosive material; and the chance of opening or unlocking it by any person not particularly acquainted with the proper position of certain indices, as last adjusted by the oporator, is less than 1 in 100,000,000. Yet this lock may be unlocked with less trouble, by a person who understands it, than an ordinary lock with a key.

Self Adjusting Tail-block.

Those who are acquainted with saw mills, will readily understand what is meant by this title. We have received from the inventor,—Mr. Charles D. Wright of Leesville, Ct., an operating model of a tail block so constructed that when the carriage with the log is run back, the position of the log upon the block is changed to any required guage either to the right or left, ready for another cut of the saw, and that without any attention from the sawyer.—This tail block arrangement is decidedly ahead of anything of the kind heretofore introduced, and being sufficiently simple in its construction, is likely to be extensively adopted by saw mill owners.

Townsend's Improvements.

It will be remembered that a few months since, we gave a description of a new and improved mode of warming railroad cars, invented by Mr S. P. Townsend of Albany, and we now have the satisfaction to announce a still more important invention by the same inventor. This invention consists of a series of horizontal pipes, adjusted upon the tops of the several cars in a railroad train, and connected to each other by elastic sections, in such a manner as to conduct the smoke from the engine to the rear of the train, quenching the sparks and purifying the smoke in its passage. We are preparing to present a full description with an engraving in our next number; and we feel assured that every person who occasionally travels by railroad will rejoice to be thus effectually relieved from the annoyance of smoke, sparks, and cinders, when the weather is too warm to ride with closed windows.

New Glass.

Mr. G. Burdick, of Albany, has discovered a method of manufacturing a new kind of glass, of which he has exhibited some beautiful specimens. This glass is made of clay, and is susceptible of a variety of colors, and of an extra brilliant lustre.

Glass Coffins.

A patent has just been taken out by Mr. Parke, of Peckham, England, for making coffins of glass, by a mould, or of thick plates of china: joined together by a durable cement, or of wooden cases, lined with plates of glass, united by a mixture of fused glass and borax. In these the bodies may be seen without opening the coffins.

Raised Metal-plate Letters.

Messrs. Baylie & Foster of this city, have invented (and taken measures to secure the patent for) a mode of manufacturing elegant sign letters of sheet iron, or tin plate, by *striking up* with suitable prepared dies. These letters can be moulded to any required fancy shape, and made with much rapidity. They are to be gilt or painted as fancy may dictate.

Brilliant Sign-letters.

Mr. Ashe, of the firm of Ashe & Goulet, is preparing for the manufacture of sign letters of flint glass, raised to a swelled prominent shape outside, but hollow within. The inside of the letters are to be brilliantly gilt, or silvered in the manner of looking glasses They will, of course, possess the most perfect brilliancy which neither time nor exposure to the weather can tarnish.

Pitchfork Machine.

Mr. Curtis, of Amsterdam, N. Y., has invented a new machine for making pitchforks, in a most novel and speedy manner. Its economy is evident, we are informed, by the great finish to the fork, above all machines of this kind.

Patent Tidal Wheel Company.

This company has been formed for working a patent taken out for a newly-constructed wheel, attached to floating machinery, and to be worked by the horizontal flow of water in tidal rivers, most simple in construction, though hitherto, we believe, not acted upon. It is on the principle of the common window ventilator, on a gigantic scale—and the water rushing through the spaces between the inclined radiating vanes, impinges upon them, and forms the motive power. In the prospectus before us, it is stated that "no known motive power will be able to compete with it, for the purposes for which it is intended to be applied, viz.: grinding all sorts of grain, sawing timber, deals, &c.; also, in a very important operation, for which it is eminently adapted, working dredges for deepening the beds of rivers and mouths of harbors: its application to the latter purposes, which are at present performed by steam at great cost, will, it is confidently anticipated, prove highly remunerative." It would be of vast benefit to mankind could a plan be successfully adopted of taking advantage of the incalculable power, which is lost every ebb and flow of all tidal rivers, particularly such as the Thames and Severn, where the tides are rapid. Several inventions have been tried, but, we believe, none have yet succeeded; and should the one under notice answer the expectations formed, it will, doubtless, prove highly remunerative. It would prove a great advantage under the new laws relative to corn, as there is every probability of large quantities being brought into British ports, and it is clear that a system by which the corn can be at once transferred from the vessel and converted into flour, at a small cost, must be productive of great benefit to the consumer; it is, moreover, admitted as a fact, that the steam and water power now applied to grinding purposes, is far from adequate to meet even the present demands of the trade. Advantageous arrangements are made with the patentee, who is so satisfied with the results of his experience in the invention, that his remuneration is made conditional on the success of the company; and the capital is proposed to be £65,000 in 5,200 shares of £12 10*s*. each.—*Mining Jour.*

An Improvement in the Electric Telegraph.

The improvement consists, says the European Mechanic, mainly in the substitution of a slip of gold leaf, with a magnet placed near it, for the whole coil of wire and magnetic needles. The advantages gained are: *First*, cheapness—a couple of coils and needles, as at present used, cost, in England, $96; the corresponding apparatus, on the new plan, $4,80 *Secondly*, in delicacy—with the new apparatus, a battery of a single cell will work through 100 miles of wire. *Thirdly*—greater rapidity of motion. Gold leaf being almost without weight, and consequently without momentum, immediately after the signal is made the leaf drops down without any oscillation or swinging, which always takes place in needles—*Fourthly*—by a slight change in the construction of the keys or handles, which serves as commutators, double or treble the number of signals may be made with each slip of gold leaf to what can be made with needles With a needle, in consequence of its oscillation, only one power of electricity can be employed; with the gold leaf, two or three different powers may be employed, deflecting the gold leaf to a less or greater extent, and multiplying in a corresponding ratio, the number of signals given. *Fifthly*—Portability. An apparatus of gold leaf may be carried in the pocket, and applied, for any temporary purpose, at any point of the country in a minute or two.—*Sixthly*—The cheapness will allow a reserve to be kept at each station, so that if one apparatus be damaged by lightning, or other cause, another may be substituted in a few seconds. *Seventhly*—Slightness of resistance to the electric current. The resistance to each coil at present is equivalent to six miles of wire, whereas that of a slip of gold leaf is not equal to more than a few hundred yards. This will enable the same battery at each station, to communicate with many more stations at the same time than can possibly be done at present — Having these advantages, it must soon entirely supersede the old needle telegraph.

FOREIGN CORRESPONDENCE.

London, March 10, 1847.

New Inclined Plane Propeller—Patent Fender—Elastic Metallic Piston, &c.—Patent Cab—Metallic Sand—Valves and Air-conductors in Hats, &c. &c.

A new method of "propelling railway locomotives," is now being tested on the Great Western Railway. The experiments are made up an inclined plane of 1 to 19, and the object is to do away with the driving wheels, altogether, and to connect two horizontal wheels, instead of the driving wheels, with the pistons. These horizontal wheels run before and press the opposite sides of a rail between the other rails by means of leverage gear; and, from their bite on that rail, they produce the traction of the train in lieu of the driving wheels. An engine of this kind, it is stated, has drawn thirty tons readily up the incline mentioned. Another article in the railway line is a "patent fender," designed to "mitigate the effects of railroad collisions." All that I can say of it is, that it consists of stout spiral springs imbedded in india rubber, which projecting from the locomotives and cars give not only a deadening effect to, but act by the force of, concussion, upon patent brakes or chocks in connection with the fenders of each car in the train. The next article (mentioned here because first spoken of in connection with railways) is the "patent elastic metallic piston." This consists of only two pieces of metal, having the vertical and lateral pressure independent of each other, while its great elasticity and self adjusting properties enable it to yield to any inaccuracy of the cylinder, whether oval or taper, and to move with the least possible friction. The last article for railway purposes that I notice here, is called "patent elastic planking material," described as "perfectly non-absorbent, to be placed between the rails and sleepers of railways, and also between the frames and bodies of carriages to prevent jarring." The sides and backs of carriages, it is stated, can be made exclusively of this material, "thereby preventing splinters in case of accident." Before leaving the subject of railways, I will just mention that a commission has been appointed by the French government to report on experiments commenced on the Sceaux railway, constructed after a system of curves of small radius and worked by articulated carriages. The "Patent Meter Cab Company," is the name of an institution just organized here. Each of the cabs belonging to this company are to be provided with a newly invented apparatus, the index of which will point out the fares of passengers according to the distance travelled, and also correctly register the amount of money received for fares during the time the cab is out. The superiority of this apparatus is claimed to be in the fact that it will only act when a passenger is in the cab. "Patent metallic sand," is a material announced as ready for the patronage of the public. It is said to contain by analysis of silica 40 parts, oxide of iron 32, alumnia 6, lime 6, magnesia 2, zinc 3, arsenic and carbonate of copper 2. The patentees assert that from its "granular form and the quantity of iron it contains, it forms in admixture with lime and common sand a cement, mortar or concrete of flinty hardness and almost entire incompressibility, completely excluding water." I notice also, a "patent drying kiln," which claims to effect its main objects of economy and dispatch, through the medium of discharging a large volume of heated air above the drying floor in addition to the ordinary method of applying the heat below. A tube carried through the centre of the receptacle for holding the fuel, open to the air beneath, is carried above the drying floor, where it discharges itself, thereby absorbing the vapor and carrying it off in a rapid current. I come now to an article with a "mortal" hard prefix, nothing less than the "Idrotobolic Hat." The claim on the invention is for "the application of valves and air-conductors to hats," the invention itself consisting of a valve, which is placed in the crown of the hat, giving free exit to heat and perspiration, and of a grooved apparatus forming a series of small channels in the back part of the leather lining, by which air is admitted." and the advantages are said to be "the regulation of the amount of air admitted into the crown of the hat, by the opening and closing of the valve at the pleasure of the wearer; the impossibility of an accumulation of heated air and perspiration; extreme lightness, and comfort to all who suffer from the headache"—The article is on sale by a man's "hat maker to *her* Majesty." Well, what next? Why "patent geometrical newspaper safety envelopes," eight dozen for fourpence—no description.

D. M.

P. S. Before closing I would mention that the Magnetic Telegraph noticed in my last, is now in working operation on the London and North Western Railway.

The Rain Guage.

When in England, a few years since, I saw the *Rain Guage* or *pluviometer* in use. As some of our farmers may have the desire and the opportunity to amuse and instruct themselves in this way, I will give a particular notice of the instrument and its use. It is a contrivance for measuring the quantity of rain that falls. One of the best constructed rain guages consists of a hollow tube having within it a cork ball attached to a wooden stem, which passes through a small opening at the top, on which is placed a large funnel. When this instrument is placed in the open air, in a free place, the rain that falls within the circumference of the funnel will run down into the tube and cause the cork to float; and the quantity of water in the tube may be seen by the height to which the stem of the float is raised. The stem of the float is so graduated, as to show by its divisions the number of perpendicular inches of water which fell on the surface of the earth since the last observation. After every observation the cylinder must be emptied.

Another very simple rain gauge may be formed of a copper funnel, the area of whose opening is exactly ten square inches. Let this funnel be fixed in a bottle, and the quantity of rain caught is ascertained by multiplying the weight in ounces by 173, which gives the depth in inches and parts of an inch. In fixing these gauges care must be taken, that the rain may have free access to them; hence the tops of buildings are usually the best places, though some conceive that the nearer the rain guage is placed to the ground, the more rain it will collect.

Mountainous countries have most rain, and the reason seems to be the winds driving the clouds against the rocks and hills, compress them in such a manner, that they are immediately dissolved, and fall as it were, at once.* *Ohio Cultivator.*

*This idea is erroneous. It is the attraction of electricity from the clouds by the mountains, that produces the condensation of rain.—Ed. Sci. Am.

The Missing Stars.

Lieut. Maury, superintendent of the National Observatory at Washington, has made another report concerning the missing star of Lalande, in which he states that after accurate observations, he has ascertained that two stars mentioned in the catalogues are not now to be seen, and that a star not previously mentioned is shining near their place,—the whole three being within the radius of less than a quarter of a degree.

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NEW YORK, APRIL 17, 1847.

Common Sense Condensed.

In one of the city papers, published especially for *Sunday* reading, recently appeared the following argument in advocacy of the natural rights of citizens to indulge and promote intemperance, and all its attendant vices, under the head of

"Liberty and Law."

"When a country, professing freedom, lapses so far into despotism, that it becomes a matter of law whether we shall wear a red shirt or a white one—whether we shall drink out of a wine cask or a mud puddle—when our personal habits and private actions and transactions are to be marked out by acts of the legislature, it is high time to emigrate to Russia or Austria, where personal liberty is better guarded."—(*Sunday Dispatch.*

To this potent argument, the "[illegible] Age," a new paper which we receive [illegible] proves a very champion of temperance, answers as follows:

"The temperance community are [illegible] favor of legislating on the [illegible] shirts," though they do [illegible] produce some "leetle" effect if possible on *red noses*. *"Red coats"* we think more applicable to the rum-sellers of this city than "red shirts;" or perhaps "red skins" might suit them better; for if any men ought to be red, it is those who are crimsoned with the life blood of their fellows. As to the question of drinking out of a wine cask or a mud puddle, that is clearly a matter of *taste*. Those who drink out of the "cask" are pretty sure soon to find their way to the "puddle" without any *leg*-islation in the matter, for it is precisely here, if we are correctly informed, that the *leg* part of this business is most apt to fail. To our notion the "puddle" is decidedly the least injurious of the two: a little pure water tinctured with mother earth, is far preferable to the vile trash always found in the bottom of wine casks—nux vomica—sugar of lead, and such like. We all know how excessively disagreeable it is to some people to have their *"personal habits"* interfered with. The man for example who has a curious "personal habit" of getting his fingers now & then into his neighbor's breeches pocket, is no doubt highly indignant at the bare idea of legislation in such "strictly confidential" matters. The midnight burglar is unquestionably very much chagrined to find those impertinent fellows, the vigilant M. P's., interferring with his "private actions and transactions." Nothing certainly *could* be more *"private"* than his operations, and if those saucy fellows at Albany do continue thus unceremoniously to interfere with "the private actions and transactions of honest men," we think with the Editor of the Dispatch, that "it is high time" for them "to emigrate to Russia or Austria, where personal liberty is better guarded."

Sulphuric Ether.

It is stated in a foreign paper that many operations, usually very painful, have recently been performed on horses, and other animals, during the inhalation of ether vapor Punch, in an allusion to the use of this gas in the cure of animals, humorously observes; "we understand that the inhalation of ether has been resorted to, professionally, by various pork butchers, with great success. The chief difficulty they have experienced has consisted in the opposition of the patient; but when the natural obstinacy of the pig has been overcome, and he has been persuaded to inhale the ether, he has been killed with comfort to himself, and without disturbance to the neighborhood."

The Massachusetts License Law.

The Supreme Court of the United States decides that the State has a right to regulate the traffic in, and licensing of, the sale of spirituous liquors. This is truly a gratifying triumph of principle and right, over which every friend of humanity will rejoice.

Great Iron Bridge for the Neva, built at Liverpool.

The Emperor of Russia has commissioned Messrs. Bury, Curtis, and Kennedy of Liverpool, to construct, at ther extensive establishment, an immense iron bridge to cross the Neva, at St. Petersburgh. The river Neva, in the most central part of the capital named, is at present crossed by a bridge of boats—the Pont D'Isaac—over which there is a prodigious traffic, interrupted only in the night, for the passage of ships through one compartment of the bridge, which can be shifted, or removed for the purpose. In the spring, however, huge masses of ice disengaged by the thaw, drift down the stream with such force, that it is necessary to let the bridge loose at one end, and permit it to swing round at the other so as to lie along side the quay; and even this precaution is occasionally unavailing to preserve it from the destructive effects of icebergs—the boats last year, for instance, being carried away from their anchorage, and with them the superincumbent carriage and footway, into the Gulf of Finland, whence they were recovered piecemeal by steamers. To obviate such occurrences, as well as to carry out the imperial designs for beautifying and improving the capital, the Czar has resolved to erect a bridge of solid iron, on piers of Finland granite, and, impatient of delay, has entrusted the castings to Messrs. Bury, of Liverpool, who, when their new furnace, now being built, shall be completed, will be enabled to cast at the rate of 150 tons a week,—so that by the time the masonry is finished, the iron work may be forthwith fixed upon it—the whole project to be perfected in two years, when the bridge will be opened with great *eclat*.

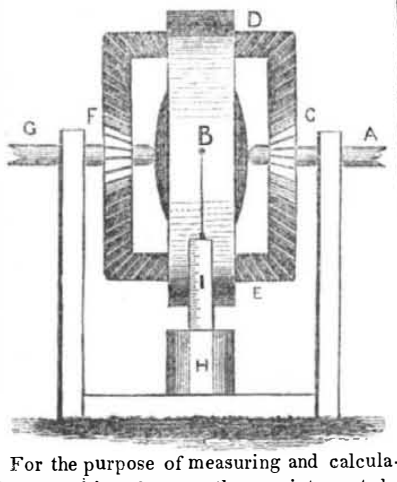
The structure will consist of seven arches. The span of the centre one will be 156 feet, and of the three arches on either side 143 feet, 125 feet, and 107 feet respectively. Another arch will be devoted to a species of swivel bridge, 70 feet wide, for the admission of ships to and from the Custom-house. The buttresses of the piers will present to the current a sharp inclined plane, so that a descending iceberg running upon them, will fall to pieces from its own gravity. The bridge will be very flat, there being a fall of only seven feet from the top of the centre arch to the end of the last arch on either side. The average depth of water in the Neva here, throughout the year, is about thirty feet; and as the river is a tideless one, there is little variation, except when the wind sets up strongly from towards the Gulf, when the waters rise considerably, in some instances doing irreparable damage. As the shores of the Neva, on either side, are extremely low, the height of the crown of the centre arch from the water's edge will be only 21 feet—the spring of the arch but 6 feet. The extreme length of the bridge, from one abutment to the other, will be no less than 1078 feet.—The weight of iron alone will be nearly 8000 tons! independent of the lamps and superb balustrades with which it is the Emperor's intention to adorn it; and which together will probably weigh from 1000 to 2000 tons more.

An idea cannot yet be formed of the cost of the whole undertaking, but the price of the iron part alone will probably exceed £100,000—much of the labor to be bestowed upon, and the machines to be constructed expressly for it, being very expensive. The segments of the arches have to be plained with the greatest precision, and the best possible workmanship devoted throughout the details. The weight of iron will exceed by nearly five-fold that consumed in the construction of the Menai Bridge. Altogether, the Neva Bridge will be a most surprising evidence of what skill and enterprise are able to accomplish. There are three boat bridges on the Neva, and it is highly probable they will be replaced with iron ones when that under notice shall have come into use.

Extraordinary Steam Hammer.

A huge hammer, worked by steam, has recently been erected at the works of Messrs. Peter Cato & Co., Liverpool, which, while it strikes with a force of *five tons*, is yet capable of such nice adjustment as to crack a walnut without bruising the kernel. Messrs. Morris & Tracker, of Philadelphia, have one of tho hammers in operation. They had it on exhibition at the last Fair of the Franklin Institute.

Measuring Power.



For the purpose of measuring and calculating quantities of power, three points are to be observed and considered; namely, force, distance and time. What is generally considered as constituting a *horse-power*, is a power sufficient to raise one hundred and thirty pounds, one hundred feet in one minute; by the modern and improved mode of reckoning power, a power sufficient to raise 100 lbs. 100 feet in one minute, is termed 100 power (or 100 pr. and corresponding with 100 weight.) In measuring or ascertaining the power of an engine or water-wheel, the velocity of the periphery of a drum or fly-wheel must be considered, in conjunction with the force which the water-wheel or engine is capable of applying constantly to a belt passed over the said periphery. Therefore if the periphery of a drum or geer-wheel moves at the rate of 100 feet per minute, and constantly applies or communicates to other machinery a force of 100 lbs.—It is said to work 100 power. But if the periphery moves with the velocity of 120 feet per minute, and with the force of 150 lbs., (multiply the velocity by the force, and cast off the two right hand figures) it is said to work 180 power. A machine for the accurate measuring of power has been invented, and a representation thereof is presented at the head of this article. The shaft A, is supposed to conduct the power and motion from the engine or driving wheel, and terminates in a socket in the centre of the drum B. This shaft supports a bevelled geer-wheel C, which takes to two other geer-wheels D, and E: these wheels unite in driving a fourth wheel F, which puts in motion the shaft G, which continues the motion and power to the machinery that is to be operated. A spiral spring is coiled in the box H, and is attached to a graduated slide I, (constructed like the common spring scales) and this slide is connected by a cord to the periphery of the drum near B. A set of figgures on the slide I, indicates the force which is applied to the periphery of the drum B. It is to be understood that the axles of the wheels D and E, have their bearings within the drum, so that all the force of the wheel C, on the other wheels, has a tendency to turn the drum. Now if the circumference of the drum be five feet, and the shaft A, revolves twenty times per minute, it is to be counted the same as if the periphery of the drum travelled 100 feet per minute. If therefore the motion of the shaft is twenty revolutions per minute, and the force as indicated by the scale is 100 lbs., it proves that the machine is working 100 power. Again, if the shaft revolves 32 times per minute, which number being multiplied by the circumference of the drum is 160 feet; and if the force indicated is 207 lbs., then the power on which the machine is working is 330 power, or one horse power. In this way the power by which any machinery is driven, may be accurately measured, and if the motion of the shaft is very rapid, a very small machine of this kind may be sufficient to measure 20, or even a hundred horse powers between the engine and the operated machinery.

Large Iron Shafts.

The Louisville Democrat says that, at Yeatman & Shields' Foundry, in that city, there are two iron shafts just cast for the steamboat Magnolia, weighing each 11 1-4 tons—each 20 feet and 2 inches long. The journals measure 13 and 17 inches. The shafts were perfect, and made in three days from the time the order was received; the patterns, of course, being made in this time. They are the largest shafts ever cast in that city.

Boston vs. New York.

A late number of the New York Journal of Commerce contains some statistics which go to show pretty convincingly that the "City of Notions" is treading hard upon the heels of her great rival, "Gotham"—and that Boston is fast outstripping New York in the western trade, by means of the railroad to Albany. The singular success of this road is known to all.—It has astonished and alarmed the good people of Gotham, who, relying on their great natural advantages, looked formerly with contempt on this enterprize—never dreaming, any more than the Venitians of old, that so large a part of their old established business could be wrested from them and retained. The history of this road is without a parallel. It presents the singular spectacle of a railway 202 miles long, with two summits—one of 1400 feet above tide, the other 918 feet, and with grades of 83 feet per mile—competing with the steam boat navigation of the world renowned Hudson, a distance of 52 miles less than the railroad! The bearing of this fact on certain questions now agitated in our own community will be evident to all.

Telegraphic Phenomena.

At the Telegraph Office in this village, says the Cayuga Tocsin, last evening, was observed a most brilliant phenomenon, occasioned by a violent snow aud thunderstorm. The electricity accumulated in the clouds near Rochester—the storm there being the most severe—was transmitted along the wires to this office, where, in consequence of their close proximity, and the superabundance of the electric fluid, a brilliant, vivid and almost continuous discharge took place, with miniature thunder claps in most rapid succession, and a resplendent blaze of light. At several places, where the wires most nearly approximated, their insulating coats were consumed and the copper itself melted.

Peg Factory.

The Cincinnati Commercial states that there is a real curiosity in that city on Fifth street, between Broadway and Pike, in the same building with Underwood's machinery driven by steam to make Shoe Pegs. Think of that—making shoe pegs by steam! The engine is below—in the second story the green wood is taken—sawed into lengths and planed. The next operation is to crease the top, after which comes the splitting process. The next is to grind the pegs and seperate them. Lastly, they are dried by steam. In fact, the pegs are all from the green tree, made by steam, and the proprietor stated that he made daily about *eighteen bushels*.

The Infernal Traffic.

Early in December, a slaver was taken between Shebar and Gallinas, with five hundred and sixty slaves, which was augmented to five hundred and sixty-one by a birth which took place a few moments after the captors had gained the deck. A decrease, however, soon occurred, as five of the unhappy wretches died before morning. Some idea may be formed of the way in which the slaver did the business, from the admission of the captain of the slaving vessel to the prize officer—that in four hours from the time he let go his anchor, he had taken in his wood, water and slaves, and was standing to sea.

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Austin's Perpetual Motion.

(*Continued from No.* 29.

One end of a helical spring is fastened to K, and the other end to the outside of F, at a point nearly opposite the centre of it. The spring when extended is nearly 37 feet in length, and when not extended nearly 3. Pieces of wood or iron are fastened across the tube at one place opposite M, and at another place, opposite N, to make bearings for K. They are narrow, and a little distance apart, so as not to impede the passing of the water. The tubes are to be cast in as many pieces as necessary, and put together with screws.

For the purpose of making and explaining the necessary computation, I have supposed the form of F, and the form and size of E, and their position relative to each other, to be as they are represented in fig. 1. But, for a practical purpose, they may vary from this representation, and be such as convenience may require. The size of F should not vary much from 4 cubic feet when in the position as seen in fig. 5. But if the form of it be as it may, whether square, or round, or oblong, or of any irregular form, it is evident, when it is so compressed as to cause it to occupy no more than 2 cubic feet, that the water, and the C between N and O, will descend in the tube 2 feet, and that the upward pressure of the water upon F does not depend upon the form, but upon the size of it. It is evident, also, that whether E can be raised by the upward pressure of the water upon F, does not depend upon the form of E, or upon its position relative to F, but upon the size and weight of it. It may, therefore, be of any convenient form, and occupy a position on the carriage to which F is attached, where it is most convenient. In regard to the advantage gained by raising E in the tube, it makes no difference on what part of the carriage it is situated, provided it should retain the same position on it, during a whole revolution of the wheel.

A cubic foot of air, or vacuum, in any vessel capable of containing it when in the water, will cause the upward pressure of the water against the vessel to raise a quantity of lead, weighing in the water almost as much as a cubic foot of water weighs out of the water, which is nearly 60 lbs.

An alteration may be made in this wheel which will cause it to give about four fifths as much X as it now gives, and weigh a little more than half as much as it now weighs. The alteration may be made thus: Dispense with the use of C and C, and make holes through the ends of the tubes so that the atmosphere may press instead of C and C, upon the ends of the India rubber bags. Fasten moveable covers, or followers, made of iron, to the ends of the bags, to prevent the water from pressing the bags through the holes in the ends of the tubes, when at the lower part of the wheel.—Make the bags long enough to allow the followers to bear on the lower ends of the tubes. A wheel made in this way would not revolve in vacuum, therefore, it would not "move independently of the elements" of the earth.

A wheel made with 16 tubes as large as fig. 5, and according to the plan of it, would, by one revolution, give X nearly equal to the perpendicular descent of 960 lbs. 34 feet. It would weigh about 77 tons.

A wheel made with 16 tubes as large as fig. 5, and according to the alteration just mentioned, would by one revolution, give about four fifths as much X as the other. It would weigh about 44 tons.

Now let us hold fig. 1 so that A 1 may be in a perpendicular position, ascertain the situation of all the weights, and see if the wheel has not a strong tendency to move. The wheel is calculated for the left side to ascend, and the right side to descend

Let us begin with A 1. This tube is now balanced, because it is in a perpendicular position. While it remains in this position it gives neither impulsive nor opposing power.

Now let us examine A 3. This tube is now in a horizontal position. By the lateral pressure of the water in this tube C and C are carried to the ends of it, at equal distances from the centre of the wheel, and therefore balance each other. The three fourths of a cubic foot of vacuum, which was at the top of the tube when it was in a perpendicular position, has been, by the lateral pressure of the water, removed to the upper side of it, above the dotted line. E weighs in the water nearly 120 lbs. As the bulk of E is one fourth of a cubic foot, it will, of course, weigh out of the water nearly 15 lbs. more. 15 added to 120 are 135. K is now at E in this tube. The weight and bulk of K are nearly equal to the weight and bulk of E. K weighs nearly 120 lbs. in the water, and nearly 135 out of it. E and K added make nearly 270 lbs. If nearly 240 lbs. of this weight were placed at the centre of F, 2 1-8 feet nearer the centre of the wheel, this tube would be balanced. Therefore, the X which this tube now, in its present position, gives, is equal to what is obtained by removing nearly 240 lbs. 2 1-8 feet further from the centre of the wheel, than they are when the tube is balanced.

(*To be continued.*)

Giants of Olden Time.

In one of his recent lectures, Professor Silliman, the younger, alluded to the discovery of the skeleton of an enormous lizard, measuring upwards of eighty feet. From this fact the Professor inferred, as no living specimen of such gigantic magnitude has been found, that the species of which it is the representative has greatly degenerated. The verity of position, he rather singularly endeavors to enforce by an allusion to the well known existence of giants in olden times. The following list furnishes the data on which this singular hypothesis is based :

The giant exhibited at Rouen in 1336, the Professor says, measured over 18 feet.

Gorapius saw a girl who was ten feet high.

The body of Grostes was eleven and a half feet high.

The giant Galbara, brought from Arabia to Rome, under Claudius Cæsar, was near ten feet high.

Funnman, who lived in the time of Eugene II. measured eleven feet and a half.

The Gavalier Scrog, in his voyage to the Peak of Teneriffe, found in one of the caverns of that mountain, the head of Gnnuch, which had eighty teeth, and it was supposed that his body was not less than fifteen feet long.

The giant Ferragus, slain by Orlando, nephew to Charlemagne, was 18 feet high.

In 1814, near St. Germain, was fouud the tomb of the giant Isorent, who was no less than twenty feet high.

In 1590, near Rouen, was found a skeleton whose skull held a oushel of corn, and whose body must have been eighteen feet long.

Platorious saw at Lucerne, the human bones of a subject nineteen feet long.

The giant Bacart was twenty two and a half feet high ; his thigh bones were found in 1703 near the banks of the river Moderi.

In 1613, near a castle in Dauphine, a tomb was found thirty feet long, twenty wide, and eight feet high, on which was cut on a gray stone, the words " Keutolochus Rex." The skeleton was found entire twenty five and a half feet long, ten feet across the shoulders and five feet deep from the breast bone to the back.

Near Mazarino, in Sicily, in 1516, was found the skeleton of a giant thirty feet high. His head was the size of a hogshead, and each of his teeth weighed five ounces.

Near Palermo, in Sicily, in 1548, was found the skeleton of a giant thirty feet long, and another thirty three feet high, in 1550

We have no doubt that there were " giants in those days," and perhaps Nature was more prolific in producing them than at present. But the history of giants, during the olden time, is not more remarkable than that of dwarfs. Large men and small are common now-a-days

Embellishing a Story.

The bearer of an express to Santa Fe with the account of the engagement between Doniphan's company and the Mexicans, stated that nearly *three wagon loads of the enemy's grenadier caps, or shakos, were picked up on the field, the front plate of every one of which had been bored by a rifle ball.*

Not so Bad.

A fair one wrote to her lover, begging him to send her some money. She added, by way of postscript, "I am so ashamed of the request I have made in this letter, that I sent after the postman to get it back, but the servant could not overtake him "

Ancient Baths.

Modern nations have borrowed from the ancient Romans almost every thing worth borrowing, except their magnificent baths. Such a thing as a public bath, erected at the public expense, and free to all without a charge or for only a mere pittance, is quite unknown in these modern times. We do much to cure disease when contracted ; we erect large hospitals and infirmaries ; but in all that pertains to the prevention of disease, we are singularly deficient. The Romans thought it as important to have a public bath as a public market, or a temple. Even the little provincial Roman towns had their public baths. Bathing and gymnastic exercises were regarded by the ancients as necessary for the preservation of health ; and although more importance was attached to them by the Greeks and Romans than by the moderns, we do not know that they have lost any of their importance. Rome, for more than five hundred years, had fewer physicians than baths,—& it cannot be doubted that their constant bathing and gymnastics contributed not a little by rendering medical skill less necessary, to that degraded state of the medical profession which is known to have existed at Rome. Their gymnasia were dedicated at Apollo, the god of physicians, and the directors of those establishments, as well as the persons employed under them, the bathers, and even slaves, were physicians. Though we read nothing of Homœopathy among them, yet *Hydropathy* was certainly in all its glory at Rome, and among the Greeks. With them, exercise and water cured almost every disease. Musa, the physician of Augustus, was the great champion of Hydropathy among the Romans ; and the success of his practice on his illustrious patient was so complete, that Hydropathy became exceedingly fashionable at Rome ; but like our modern Hydropathists, he seems to have made some sad mistakes ; for we read in Pliny, that he was accused of having caused the death of Marcellus, by his cold water practice. Much quackery prevailed at Rome, although it does not appear to have prevailed as at the present day.

The public baths of the ancients were of vast extent, consisting of a great number of apartments. Such vestiges of these stupendous edifices as have escaped the ravages of time, serve to indicate the amazing magnificence of the age in which they were erected, and of the vast wealth and great refinement of the Roman people. It was not until the age of Augustus that these vast structures for the health and comfort of the Roman people, became distinguished for their grandeur and magnificence. Their pavements were mosaic—the ceilings vaulted, and richly gilt and painted—and the walls were encrusted with the rarest marbles. They were ornamented with the finest specimens of Greek sculpture ; and uniting the beautiful with the useful and necessary, they served to adorn the Roman cities, while they added to the health and comfort of the Roman people. The best idea, perhaps, of the grandeur and beauty of these prodigious works of Roman magnificence, may be derived from the fact that the Pantheon, still existing at Rome, served originally as a vestibule to a portion of the public baths It was ranked by Pliny, among the wonders of the world. Agrippa, the son-in-law of Augustus, considering it too magnificent for a vestibule to the baths, is said to have added to its portico, thus converting it into a temple which he dedicated to all the gods.

The Roman baths were of two kinds, the balneæ and the thermæ. The former consisted of simply cold and warm baths ; the latter combined all the appurtenances of the Greek gymnasium, with baths warm and cold. They possessed all the conveniences of gymnastic exercises and sports, together with exedræ fitted up with seats for philosophers, who usually made it a resort for conversation. These exedræ were also the place in which the rhetorician declaimed, the poets recited, and the philosophers lectured. The walls of these literary resorts were decorated with the finest paintings and statues, and out of them there were passages leading to the shaded walks and gardens, adorned with beautiful fountains, like the groves of the Academy.

These baths were two stories high ; and the external range of buildings occupied one mile in circuit. A more minute description of them here would occupy too much space : we can only refer the reader to works on Roman antiquities.—*Poughkeepsie Thomsonian.*

Santa Cruz, West Indies.

(The intelligence contained in the followmg extract of a letter from an American in Santa Cruz, (which we find in an exchange without credit,) will be found sufficiently interesting to warrant its insertion.)

The average width of this island is about 3 miles, and ride whichever way you will, the ocean is close at hand The roads are lined with the cocoa tree, and it is seldom that you pass them without finding more or less of the ripe fruit. The tree grows perhaps 70 feet high and for 50 feet from the ground the trunk is naked, probably a foot or more in diameter —the branches resemble the palmetto, and shoot out at the top, stiff and scythe-like, forming a bushy top to the tree. The nut grows in clusters, something like the banana As soon as one crop ripens another comes, so that it always bears. Many of the trees don't grow so high as here estimated, though what I have s[illegible]ly run up tall.

[illegible]he negroes going to town this morn[illegible] their little market stuffs, such as ba[illegible]lk, fish, &c. The town is supplied in this way. Some of the finest *estates* lay just above us—I rode up to one, and was opportuned by an old negro, for a stiver, to buy him some *bacca*. They use tobacco and smoke as common as we do. He was employed as a watchman, and pointed out his grounds. They are obliged to watch to prevent the cane from being stolen, and keep off the cattle, &c.—There are no fences—all the estates being known by the old landmarks Every estate has quite a large bell which is rung to call the negroes together. The sound is very pleasant as you ride along the deep valleys and the swelling hills. My ride this morning was through a deep valley, with high hills on both sides ; the hills rising so high and coming so nigh together, cast an evening shade upon the valley below. It was really beautiful and seemed like a fine twilight landscape painted by a master hand. The hills are more commonly in the shape of a cone, and are cultivated to the extreme top. You will naturally ask how this is done. When the grounds are to be got ready for planting, you may see a gang of 50 hands on the hillside, all in close contact, all raising the hoe, and digging up the earth *by hand* ; so they go up to the very top. Paths are left wide enough for mules to walk in, so that when the cane ripens it may be gathered thereon upon the mules' back, and he walks down to the mill situate below and makes his deposite.

The rains have been more frequent—the cane-fields look unusually well. They will commence cutting, grinding and boiling the syrup to sugar in ten days. We long to get hold of the pure syrup, and enjoy the smell of boiling sugar. This the natives consider healthy, and remark that the negroes grow fat in sugar-making times. The negroes are clad about the same as with us—never having cold weather, they don't suffer from lack of clothing. Now and then you will see one with swollen feet and legs, caused by living in hot climates ; a sort of fever, it is said, brings it on. This is not confined to the blacks—the whites are subject to the same disease.

A negro can go to law with his master.—The negro and his owner lodge their complaints with the judge, before whom they are brought, and after looking into the matter the judge decides between them. Any slave can purchase his freedom, by getting disinterested persons to set a valuation upon him. All slaves are allowed the whole of every Saturday for their own, and are also furnished land to raise what they will. All children are bound to be sent to school by their masters, till they are seven years old, and taught to read the same as white children. All these things are preparing the way for their emancipation.—But the majority of them do not want their freedom—their privileges are now almost equal to free persons, and they seem to think themselves about as well off as they can be.

A Philadelphia paper says there is a man down east who is so tall, that he is obliged to get on a ladder to put his hat on.

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TO CORRESPONDENTS.

"G. J. B. of B."—We can see no way clear for you to produce any continuing power from capilary attraction. It produces a mere absorption in porous bodies, and when they become saturated, the action ceases.

"W. D. of S. G."—We have received and examined your sample of cylindrical cloth and find it very perfect; but you do not say whether the construction and operation of your loom is the same as that described as invented by Mr. P. *That*, at least, is not affected by the principle of weaving lamp wicks.

"C. B. of P."—Permit us to improve this occasion, most respectfully to inform you, and all other respected correspondents who need such information, that this paper is *edited* by the *editor*,—the publishers being engaged in more important business, than correspondence on scientific subjects. Your proposed printing press, constructed to print both sides of a continuous sheet, with machinery to fold and cut off, will be an excellent invention when *invented*; especially as it will save all the labor of feeding, flying and folding. The plan of printing paper in a continuous [illegible] as it leaves the paper-mill machinery, and [illegible] fore it is fully dry, may have been talked [illegible] we have not before heard the plan suggested for [illegible]aper printing in the manner you propose say as Davy Crocket said, "Be sure yo[illegible] and go ahead."

"W. A. C."—Your poetic contribution will receive due consideration. However, we are not disposed to encourage the indulgence of sentiments of sadness and gloom; and *may* decline the insertion of your stanzas, on that account. Mourning the absence of departed friends is altogether inconsistent with the rational sentiments of the present age.

"T. G. S."—As you reside in the city, it may not be very inconvenient for you to favor us with an interview.

"D. C. H. of M."—We do not discover any thing novel in either of your two first mentioned plans. Your self-regulating gate is original and must prove highly usetul in many situations. You should make an operating model immediately, if you have not already.

"A. S. of W. H."—We send you by mail a copy of the pamphlet circular of the new Inventors' Institute, that you may the better judge of the advantages of membership.

"M. K. of W."—Water can exert no power on a wheel by its weight, unless the gravitation of the water is accommodated by the motion of the wheel. In the plan proposed by you, the water in the elastic tube is not permitted to descend, but is held stationary, and consequently has no influence on the wheel.

"J. H. C. of P."—There appears to be considerable demand for your key-seat machines, and some arrangements should be made to supply them. We shall write by mail on the subject.

"G. T. of G."—Your plan for a self regulating feeding apparatus, is impracticable without a variety of alterations too tedious to mention.

"W. J. H. of P."—Your plan for a windmill is truly novel, and in many respects excellent—but we shall feel restrained from giving full notice of it, unless we give your name and residence. We have had some experience in building windmills in your town, and are well acquainted with the advantages of location, as well as the prevailing opposition to any thing that may frighten the horses.

"N. B. G. of W."—Your inventions are approved and will be duly noticed with illustrations next week.

"E. G. of P."—We cannot do justice to your cultivator and seed sower, without engravings which will cost at least $3. If you are about to introduce them you will find your advantage in furnishing the expense of a cut.

"L. F. M. of A."—We have examined your various plans in the line of safety locks, and find them original, and well calculated to answer the purpose for which they are intended. But you must see how difficult it is for us to give descriptive notices of such inventions without the aid of illustrative engravings.

"C. A. C. of W."—Your package of books were sent last Saturday, one week ago.

"J. W. H. of N."—We should be pleased to hear from you again.

The Lynn News stated the other day that at the new city of Lawrence, "rich lawyers by the hundred" would be able to find constant employment. Instead of "rich lawyers," it should have been "*bricklayers*."

A cotton Manufactory has recently been put in operation near New Brunswick, N. J., calculated for 5000 spindles and 120 looms, all of which are said to be in operation, and employing 120 operatives.

Two commodores, two engineers, and one naval constructor, are to be appointed by the Secretary of the Navy, to decide upon the kind of dry dock to be built at Philadelphia, Pensacola and Portsmouth.

In a note from Assistant Adjutant General Bliss, he mentions the fact that General Taylor received two balls during the battle; one passed through the cuff of the coat, the other through the front.

The increase of receipts for the first quarter of the current financial year, on the Boston and Albany Railroad, over the corresponding quarter of 1846, is $60,000.

It is reported that the Western Railroad Company have given directions to cut down all the telegraph poles which lean so as to endanger the lives of brakemen on the tops of trains.

At an exhibition ball given last week by Mrs. Shaw of Albany, a little girl only *three* years old danced through an entire cotillion without a mistake.

John B. Gough proves a very lion wherever he goes- He has returned to Albany from a successful tour north, and is about to proceed south.

First Volume.

We would inform those who have been disappointed in procuring the whole of the first volume of the Scientific American, that we have recently come into possession of a few complete sets of the last half, (i. e. from Nos. 26 to 52 inclusive) which we will dispose of at the subscription price, viz. $1 per set.

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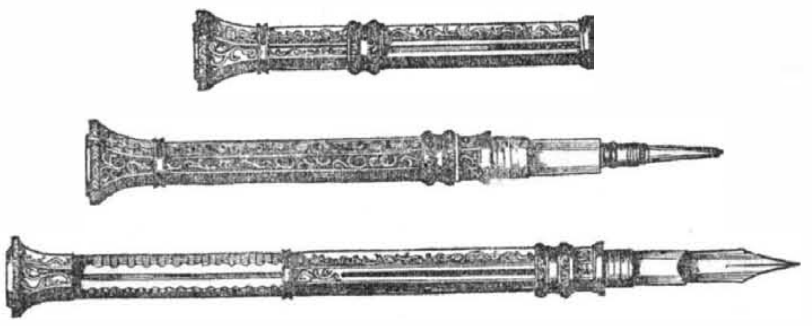

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Improvement in the Pin Manufacture.

(*Concluded from No.* 29.)

The Copper Coating Process.—The mixture prepared, as last directed, is introduced into another revolving cylinder, and pins (about 13 1-2 lbs. weight as before) are thrown into the midst of it. The cylinder is then caused to revolve for about half an hour, which serves at once to remove any verdigris from the pins, to impart a high polish to them, and to give a beginning to the copper coating process. At the end of the half hour, or thereabouts, 231 6-10 grains (more or less) of crystalized sulphate of copper of about the roughness of marine salt, and 150 2-5 grains of crystalized sulphate of zinc, (previously dissolved in soft water,) are added to the mixture in the cylinder, and the whole again agitated for about a quarter of an hour. The pins are by this operation not only completely coated, but acquire a very considerable degree of polish. The copper liquor is then drawn off, and the pins twice suffused with cold water, while the cylinder is kept rotating at the rate of about one turn a minute. The pins are then taken out and thrown into a wooden tub containing hot soap and water, after which the tub is hermetically closed by putting on a rimmed cover, and making it fast by hooks and eyes. The pins are now well shaken, by overturning the tub and raising it up again, some thirty or forty times, more or less. The contents of the tub are then emptied into a wooden strainer having a perforated bottom of tinned plate iron; and when the soap and water has drained from the pins, the latter are placed, while yet wet, in a revolving cylinder, containing well-dried sawdust, (using by preference, as before, the sawdust of poplar wood), or well-dried bran freed from flour. The pins are now dried by turning the cylinder for from five to six minutes, at the expiration of which time they exhibit a very beautiful copper appearance, and may be used in this state without tinning, if thought desirable.

A considerable portion of the coppering ingredients may be saved after each operation by allowing the mixture to settle, then drawing off the supernatant liquor, and adding thereto 386 grains of sulphuric acid to bring it up to a strength sufficient for subsequent use.

Tinning and Blanching.—The pins are tinned and blanched in the ordinary manner, and by the ordinary processes used for those of brass wire, that is, by laying them on plates of very thin tin placed one above another, in a tinned copper boiler containing a solution of about 4 2-5 lbs, of crude tartar, or cream of tartar, (preferring the latter,) in about twenty-two gallons of water, and then setting the whole to boil for about twelve hours. The tartar solution should be prepared at least twenty-four hours previously, and left to work for that time, in order that the ingredients may be thoroughly dissolved and intermixed. About 4 2-5 lbs, of cream of tartar is the minimum quantity which should be used, and the brilliancy and celerity of the tinning will increase in proportion to the increase of the quantity employed.

The pins are then taken out of the boiler and dried in a revolving cylinder or leathern bag, as before explained, after which they are ready for use.

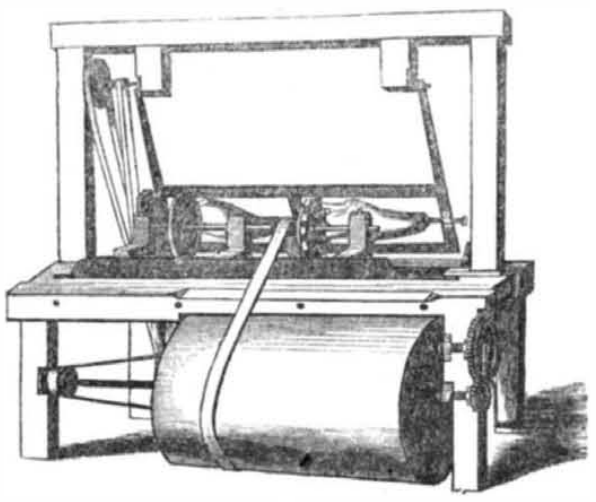
The Feet and its Coverings.

For upwards of twenty years, as a bootmaker, I have made the feet my study, and during that period many thousand pairs of feet have received my attention. I have observed with minute care the *cast* from the antique as well as the "modern instances," and am obliged to admit that much of the pain I have witnessed, much of the distortion of the toes, the corns on the side, the collosities beneath, and the growing in of the nails between, are attributable to the shoemaker. The feet, with proper treatment, might be as free from disease and pain as the hands; their structure and adaption to the wants and comfort of man being naturally perfect. Thirty-six bones and thirty-six joints have been given by the Creator to form one of these members, & yet man cramps cabins, and confines his beautiful arrangement of one hundred and forty-four bones and joints—together with muscles, elastic cartilage, lubricating oily fluid, veins and arteries—into a pair of shoes or boots, which, instead of protecting from injury, produce the most painful as well as permanent results. "A last fitted up to the length and width may do, or it may not. It may do by chance, or fall, of necessity; but if fitting be anything, it is a skillful adaptation of the last to the true form and requirements of the foot generally. Many persons have an idea that right and left shoes are comparative modern innovations of fashion; but this is a mistake—straight lasts are a modern invention, and, notwithstanding what many persons say to the contrary, are decidedly inferior to a well formed right and left pair.—The great evil has been that all right and left lasts of late have been *crooked*. It was tho't that, in abandoning the straight last with all its faults, a perfect fit could be secured in rights and lefts; and from one extreme, as is generally the case in fashion, the opposite was adopted, and a twisted right and left made the matter still worse. It was thought that nothing could be right and left but that which took a decided turn; and the consequence has been that for years, lasts have been made with an ugly twist inward, where no wood was required; and on the outside, where the toes, with all their tenderness, and liability to injury, have required thickness and breadth, nothing has been left. I have pointed out this fault to last makers a thousand times; have stood by them at their work "and have seen the part, where I wished of all things the room to be left, cruelly sliced off, or rasped away; the consequence to the unfortunate wearer of a shoe or boot made on that last necessarily being months of torture"—[*Book of the Feet.*

Culture of the Rose.

This is the title of a neat little bound book containing 118 pages on the subject of the proper management of the various kinds of roses, budding, grafting, &c. The work is illustrated with a variety of engravings, and is worthy of the attention of every family who have facilities for cultivating this beauty of creation. Published by W. H. Starr, 135 Nassau st.

Blanchard's Lathe for Turning Irregular Forms



Thomas Blanchard, the inventor of the above singular lathe, was born at Sutton, Worcester County, Massachusetts. From infancy he exhibited a wonderful taste for mechanical subjects. At the age of eighteen he invented a machine for making tacks. Such was its perfection that a *half ounce would balance a thousand.* After this, Blanchard undertook, with perfect success, the construction of a lathe to turn the whole of a gun barrel from end to end by the combination of one single self-directing operation. A knowledge of this important improvement coming to the superintendent of the United States' armory at Springfield, a contract was made with Blanchard to erect one at that establishment. While the workmen were gathered around to witness its operation, an incident occurred which finally led to the truly wonderful invention for turning irregular forms. One of the men, addressing himself to a companion, says, "Well, John, he has spoiled your job!" "I care not for that," was the reply, "as long as I can get a better." One of the musket-stockers, with a confident shake of the head, then boastingly exclaimed, "that he (Blanchard) could not spoil his, for he could not turn a gun-stock!" This remark struck Blanchard very forcibly, and in answer he observed, "I am not so sure of that, but will think of it a while." The idea of turning by machinery such a long irregular form as the stock of a musket, seemed absurd, but he could not banish the subject from his mind. After remaining a few days longer at Springfield, he left for his residence in Worcester county. While passing in a one horse vehicle, in a state of deep meditation, through the old town of Brimfield, the whole principle of turning irregular forms from a pattern at once burst upon his mind: the idea was so pleasing and forcible, that, like Archimedes of old, he exclaimed aloud, "*I have got it! I have got it!*"—Two countrywomen, overhearing this, suddenly started up from the wayside, with countenances expressive of wonder; when one of them, addressing his companion, said, "I guess that man's crazy."

In a short time, Blanchard built a model of this machine, and so exact were its operations that it would perfectly turn a miniature stock

This machine is represented in the engraving in its most simple form, for turning shoe lasts; and is so constructed that, from one as a pattern, an exact *fac simile* can be formed from a rough block of wood. Both the pattern and block are fixed on the same axis, and are made to revolve around their common centre, in a swinging lathe, by a pulley and bolt on one end of the axis, as shown in the engraving. On a sliding carriage is attached three posts, through which are fixed pivots, to which are suspended the axles of a *cutting* and a *friction* wheel. The cutting wheel, which is about one foot in diameter, turns on a horizontal axle, and to its periphery is fixed a number of crooked cutters to act like a *gouge* when the wheel is put in motion. This cutting wheel is placed opposite the rough block.—The *friction wheel*, which is of the same diameter as the *cutting wheel*, is placed opposite the *pattern*, so as to press against it when in motion. These two wheels are in a line with each other, and are attached to the same carriage. On the axle of the cutting wheel is fixed a pulley, around which passes a band which puts the cutting wheel in motion by a large drum revolving under it. A crank, or first mover, communicates motion to the drum, which in its turn transfers a rapid motion to the cutting wheel; while a band which passes from a small pulley on the drum-shaft, puts in operation a feeding screw-pulley, which moves the sliding carriage horizontally from left to right. Another pulley on the drum-shaft gives a slow rotary motion both to the pattern and the rough block, in a direction *opposite* to the cutting wheel. The friction wheel is turned by the pattern resting against it.

During the revolution, the pattern, being irregular in its surface, causes the axis to approach and recede from the wheel. Thus it will be seen, as it presents its whole surface to the *friction wheel*, so in like manner the *block* presents its surface to the *cutting wheel*, which being in rapid motion cuts away all that part of the block which is farther from the common centre than the surface of the pattern, and thus forms, from a rough block, an exact resemblance of the model.

Culture of the Whortleberry.

Most of the fruits that we consider adapted only to their native wild or pastures, may be very successfully and profitably cultivated, in our own gardens. The Vermont Chronicle remarks that the swamp whortleberry is capable of successful introduction into garden culture. A gentleman in Wayne county, Michigan, has a little whortleberry tree, planted from a marsh ten years ago. It is about ten feet high, and about an inch and a half in diameter at the root. It stands in a rich, sandy upland soil. The fruit is improved in size, and is equal in flavor to that produced in the swamps. The yield is said to be more abundant and more certain. The tree is watered daily in very dry weather, and perhaps might do well without it. If efforts to cultivate in a dry soil be not successful a more moist one might be tried. The smaller variety, growing on the openings, might be tried. They probably would flourish as well with the same treatment as currant bushes, and surely this delicious fruit is worth rescuing from the extinction that seems to await it; for it is much more palatable than the currant, and requires less sweetening.

Fingers vs. Rings.

It is a custom with some of the Hottentots that if a widow marries again, she is obliged to cut off the joint of a finger for every husband she marries after the first, which she presents to her new husband on her wedding day, beginning at one of her little fingers.

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